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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/540,475

03/31/2000

Nuri R. Dagdeviren

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03/01/2004

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EXAMINER

MUNOZ, GUILLERMO

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 03/01/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/540,475

Applicant(s)

DAGDEVIREN, NURI R.

Examiner

Guillermo Munoz

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-67 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-24, 42 and 65 is/are allowed.
- 6) ☒ Claim(s) 1, 6, 14, 25, 39, 41, 43-49, 53, 63, 64, 66, and 67 is/are rejected.
- 7) ☒ Claim(s) 2-5, 7-13, 15-17, 26-38, 40, 50-52 and 54-62 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to original claims 1-40 and new claims 41-67 have been considered and are persuasive with regard to Turner (US Patent Number 6,061,407), since Turner does not explicitly state utilizing an index to a constellation. However, applicant's arguments are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 6, 25, 39, 41, 43-49, 53, 63-64, and 66-67 are rejected under 35 U.S.C. 102(e) as being anticipated by Olafsson et al. (US Patent Number 5,970,100).

Regarding claim 1, Olafsson et al. disclose mapping algorithms which teach all the claimed subject matter in claim 1 as follows: a feedback filter is anticipated by the use of a running filter sum for measuring unwanted transmit characteristics for the purpose of minimizing unwanted transmit characteristics, note Col. 5, line 59; a processing element is anticipated by element 210 of figure 210; utilizing an index to constellation of levels is anticipated by the use of constellation point index values to create two subsets; constellation of levels is anticipated by the set of L non-uniformly spaced signal points which are divided into two subsets, those which the index is in the range L-N to N-1 and those for which the index is outside the range, note Col. 15,

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lines 10-13; and the limited mapped constellation amplitude is anticipated by predetermined set of allowable transmitted signal levels, note Col. 4, lines 14-16.

Regarding claim 6, Olafsson et al. further teach the claimed subject matter “each of the levels...mapped onto only one level” in Col. 15, line 25.

Regarding claim 25, see claim 1.

Regarding claim 39, see claim 1.

Regarding claim 41, Olafsson et al. further teach the claimed subject matter “constellation signal is limited...levels” in Col. 4, lines 14-16.

Regarding claim 43, see claim 41.

Regarding claim 44, Olafsson et al. further teach the claimed subject matter “first distance...basic constellation of levels” by the inherency of the non-uniformly spaced signal in Col. 15, line 10.

Regarding claim 45, see claim 6.

Regarding claim 46, see claim 41.

Regarding claim 47, see claim 44.

Regarding claim 48, see claim 6.

Regarding claim 49, see claim 1 above. Further, Olafsson et al. teach the transmission of signal point  $x(n)$  or  $x(L-1-n)$  based on a the modified RDS or one of the cost functions since  $x(n) = -x(L-1-n)$ , note Col.15, lines 21-25.

Regarding claim 53, see claim 6.

Regarding claim 63, Olafsson et al. do not explicitly teach "plurality of index...amplitude levels", however, the functionality of associating each PCM signal point with an index value is the same.

Regarding claim 64, see claim 63.

Regarding claim 66, see claim 63.

Regarding claim 67, see claim 63.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 recites the limitation "the output block" in line 1. There is insufficient antecedent basis for this limitation in claim 14, since no prior mention of an output block is mentioned in claim 14 or claims which claim 14 depends on, examiner is unsure of the structural relationship the output block has with previously mentioned limitations.

### ***Claim Objections***

Claims 2-5, 7-13, 15-17, 26-38, 40, 50-52, 54-62 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Allowable Subject Matter***

The following is an examiner's statement of reasons for allowance:

Claims 18-24, 42, and 65 are considered allowable because the present invention comprises a precoder for an analog modem. The precoder having a table identifying a basic constellation of levels and levels outside the basic constellation, wherein levels outside the basic constellation are mapped onto levels inside the basic constellation. The closest prior art, Olafsson et al., (US Patent Number 5,970,100) shows a similar circuit including a mapping levels outside a basic constellation onto levels inside a basic constellation. However, Olafsson et al. fail to teach the precoder in an analog modem having a table identifying a basic constellation. This distinct feature has been included in independent claim 18 rendering it allowable.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Munoz whose telephone number is 703-305-4224. The examiner can normally be reached on Monday-Friday 8:30a.m-4:30p.m..


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



GM  
February 15, 2004



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